

## Following Good Warehousing Practices

Proper warehousing means storing supplies so that products are always available, accessible, and in good condition.

To make sure contraceptives are not damaged while they are being stored, follow the guidelines below. Outlets that dispense few contraceptives may keep their supplies on a shelf or in a cabinet rather than in a storeroom, but the same principles apply.

GUIDELINES FOR PROPER STORAGE
<p>Clean and disinfect the storage area regularly.</p> <p>Store contraceptives in a dry, well-lit, and well-ventilated storage area out of direct sunlight.</p> <p>Make sure no water can leak into the storage area.</p> <p>Make sure fire safety equipment is available and accessible.</p> <p>Store cartons of condoms away from electric motors and fluorescent lights.</p> <p>Stack cartons of contraceptives at least 10 centimeters (4 inches) off the floor, 30 centimeters (1 foot) away from the walls and from other stacks, and no more than 2.5 meters (8 feet) high.</p> <p>Arrange the cartons so that the identification labels and expiration dates or manufacturing dates are visible.</p> <p>Store contraceptives in a manner accessible for First-to-Expire, First-Out distribution (described next), for counting (such as during an inventory), and for general management.</p> <p>Store contraceptives separately, away from insecticides, chemicals, old files, office supplies, and other materials.</p> <p>Separate and dispose of damaged or expired contraceptives without delay, according to local and donor regulations.</p> <p>Assure proper security.</p>

## First-to-Expire, First-Out (FEFO)

To make sure contraceptives do not expire before they are dispensed, follow the First-to-Expire, First-Out policy, known as **FEFO**. The idea behind this system is to always use the oldest stock first.

- ➡ When cartons of contraceptives arrive, *clearly mark each carton with the date of expiration*, as described in the following section.
- ➡ *Stack the cartons by date* so that the older supplies are on top of or in front of the newer supplies and can be reached most easily.
- ➡ *Issue the oldest supplies first*, making sure that they are not near or past their expiration date.

## When Contraceptive Supplies Arrive

When contraceptive supplies arrive, follow these procedures:

- ➡ *Look for their date of expiration.* If the box is marked with the date of manufacture instead, calculate the expiration date by adding the shelf life (given in the table on the next page) to the manufacture date.
- ➡ *Write the expiration date on the box* in large letters and numbers.
- ➡ *Think about the expiration date*, and make sure there is enough time left before expiration to allow for some storage both by the program and (if pills, condoms, or spermicides) by the client before the products are used. If the expiration date is too close, return the product to the supplier to prevent dispensing expired contraceptives by mistake.
- ➡ *Check the cartons for any damage* before you open them. If there is any damage, you will need to examine the contents carefully. You should also make a note on the stock card and the requisition and issue voucher that these items arrived damaged.
- ➡ *Check a few of the contraceptives* to make sure they are in good condition and not damaged. (See “How to Check Contraceptive Quality” later in this section for more details.)

## Shelf Life and Storage Conditions

If stored under proper conditions, contraceptives will remain effective for a number of years after their manufacture; this period is known as their shelf life. Contraceptives should be stored under the conditions described in the table below to have their full shelf life.

Type of Contraceptive	Required Storage Conditions	Shelf Life
Oral Contraceptives	Store away from direct sunlight in a cool, dry location.	5 years
Condoms	Below 40°C. No long exposure to high humidity, direct sunlight, or ozone. Don't store near chemicals.	3–5 years
IUDs	15–30°C. Protect from direct sunlight and excessive moisture.	7 years
Spermicides	15–30°C. No extreme fluctuations in temperature or humidity.	3–5 years (5 years for USAID-donated, 3 years for others)
Norplant®	Below 30°C. Dry location.	5 years
Injectable	15–30°C. Away from direct sunlight. Store vials upright.	4–5 years (4 years for USAID-donated, 5 years for others)

Information on the product packaging supersedes the information in this table.

## **When to Check Contraceptive Quality**

It is very important to make sure that the contraceptives are in good condition before they are distributed. Contraceptive quality should be checked at several points:

- ➡ When contraceptive supplies arrive, the staff in charge of managing supplies should examine both the outer box and the inner boxes for signs of damage.
- ➡ The staff who dispense contraceptives should check them before dispensing them.
- ➡ If the supplies are in good condition on arrival and are dispensed within 6 months, they should not have to be checked again unless there is an unusual situation, such as flood damage.
- ➡ If the supplies remain in storage longer than 6 months or if the storage conditions are poor (for example, high heat or humidity), they should be checked periodically.

## **How to Check Contraceptive Quality**

The following steps will help you conduct a thorough check:

- ➡ When contraceptive supplies arrive or when conducting a routine inspection, take a random sample from one or two of the cartons. It is important that the sample be taken from throughout the carton, not just one section. For example, take an inner box from the top, bottom, and one or more of the sides of the carton.
- ➡ From each of these inner boxes, select one or two individual product units (e.g., IUDs or pill packets).
- ➡ Inspect their quality and record the findings.
- ➡ When the inspection is complete, make certain to return each unit to the inner box from which it came.
- ➡ Return all inner boxes to the carton.
- ➡ Date and initial the carton and note that it has been inspected.

Contraceptives are produced in **lots** or groups. For example, 500,000 condoms are produced at one time; they are all in one lot and all have the same lot number. Each lot has its own unique lot number. If supplies of a contraceptive have more than one lot number, be sure to take a sample from each lot. Be sure to record the lot number with your findings.

When you are inspecting the contraceptives, look for the following warning signs and reject any products that show these signs:

CONTRACEPTIVE QUALITY WARNING SIGNS
<b>Do Not Use or Distribute If:</b>
<b>Oral Contraceptives</b> <ul style="list-style-type: none"><li>■ Pills are visibly damaged (broken, cracked, crumbled, discolored).</li><li>■ The aluminum packaging for any of the pills is broken.</li><li>■ The packet is missing any pills.</li><li>■ There are signs of deterioration (brown spots, pill crushes easily).</li></ul>
<b>Condoms</b> <ul style="list-style-type: none"><li>■ Any condom packets in the batch are brittle or otherwise damaged.</li><li>■ Any condom packets in the batch have yellowed.</li><li>■ The seal of the condom packet is not intact.</li></ul>
<b>IUDs</b> <ul style="list-style-type: none"><li>■ The sterile packaging has been broken or perforated.</li><li>■ Any of the product contents are missing from the package.</li></ul> <p><i>Note:</i> The effectiveness of copper-bearing IUDs is not damaged if the copper darkens or tarnishes.</p>
<b>Injectables</b> <ul style="list-style-type: none"><li>■ Solid material remains on the bottom of the vial even after vigorous shaking.</li><li>■ The cap is no longer on the glass vial.</li></ul> <p><i>Note:</i> If the contents of the vial have separated, shake the vial immediately before using. The solution must always look milky white, without solid material, to be used.</p>

**CONTRACEPTIVE QUALITY WARNING SIGNS — CONTINUED**

**Do Not Use or Distribute If:**

**Implants**

- The implant's sterile packaging is broken.
- One or more of the capsules is missing or discolored (not white).
- One or more of the capsules is broken or bent.

**Spermicidal Jelly**

- The jelly tube is wrinkled or leaking.
- The applicator cannot easily be screwed onto the top of the tube.

**Foaming Tablets**

- The package has broken or missing tablets.
- The package is puffy (this indicates a moisture leak).
- The foil laminate has cracks.
- The tablets are discolored (they should be white).
- The tablets are soft, wet, damp, or crumble easily.

**Diaphragms**

- The package seal is damaged.
- The diaphragm looks dirty (only the service provider needs to check for this).
- The diaphragm shows holes or cracks when held up to a light (only the service provider needs to check for this).

**Problems with Contraceptive Quality**

If you detect a problem with a contraceptive when receiving supplies, doing a periodic random check, dispensing a contraceptive, or through documented complaints by clients, then the contraceptives in that box or lot number should be more thoroughly examined. Take a sample (as described earlier in How to Check Contraceptive Quality) and see if other units also have the problem.

If the defective contraceptive that was found initially seems to be the only one with a defect, dispense the rest to clients, but be even more alert than usual to problems or complaints.

If others in the box have problems, mark the box "Potentially defective" and set it aside where it will not be used. Report the problem to your supervisor. Make sure to include the following information in your report:

CONTRACEPTIVE QUALITY PROBLEMS REPORT
<ul style="list-style-type: none"><li>■ Product</li><li>■ Brand</li><li>■ Lot number(s)</li><li>■ Manufacturer</li><li>■ Donor or provider</li><li>■ Nature of complaint or problem</li><li>■ Source(s) of complaint or information</li><li>■ Number of complaints</li><li>■ Transportation history</li><li>■ Storage history</li></ul>

If it is determined that the contraceptives are defective, they should be disposed of according to government and donor regulations.

## Managing Complaints about Contraceptives

All complaints from clients about contraceptives should be taken seriously. Not only is the health of the clients extremely important, but so is their confidence in the contraceptive. If clients doubt the quality of the contraceptives, they probably will not use them and may lose faith in the program's services.

Whenever there is a complaint from a client, collect the following information and write it down:

- Date of the complaint
- Product
- Brand
- Formulation or type
- Lot number
- Nature of the complaint

You will need this information later if you submit a report to your supervisor, as described above.

Try to determine whether the complaint is actually due to a quality problem. For example, a provider may complain that the copper IUDs are discolored or that the injectable solution has separated, but in fact they are still effective and safe to use.

Sometimes a so-called problem is not really a problem with the product but rather reflects a lack of knowledge by the client or provider. This situation can be handled by providing correct information and some reassurance.

If complaints are due to an identified or suspected quality problem (e.g., pills crumbling, condoms breaking), look at some more samples of that brand and lot for more evidence of the problem. If other units from that lot also have the problem, remove that supply from use, document the problem, and report it to your supervisor.

If supplies from one lot have a quality problem and you also have supplies from other lots, inspect samples from those lots as well.



Whenever there is a problem with quality, try to determine the reason for it. Were the supplies stored inappropriately? Are they known to have suffered poor conditions during transport? Were they nearing expiration when they arrived? If the cause is something that can be prevented in the future, make sure to take steps to correct it.

Remember, clients must receive contraceptives of good quality and they must be satisfied with the contraceptives they receive. Take every complaint, and every suggestion, seriously.

## **Conducting a Physical Inventory**

A physical inventory is a count of all the contraceptives in stock. Its purposes are to:

- Verify that the quantity on the shelves is the same as the quantity listed in the stock-keeping records.
- Correct the records if necessary.
- Determine how many items of stock are not usable due to damage, loss, or expiration and remove them.
- Identify any corrective actions that need to be taken to ensure that contraceptives are safely and effectively received, stored, and accounted for.
- Provide an opportunity to organize the storeroom.

Staff should conduct an inventory at least once a year. Inventories should be conducted more often if there are many discrepancies between the actual balances on hand and the balances listed on the stock cards or if the outlet is small. Small outlets would not have to follow as formal a process as the one described next, but staff should frequently check the actual amounts on hand against the stock card.

To conduct an inventory in a facility with a substantial supply of contraceptives:

- ➡ *Choose a date in advance*, and set a cutoff date several days earlier. The inventory should include only contraceptives that are received or shipped before that date. Any contraceptives received after the cutoff date should be set aside (and not entered into the records) until after the inventory.
- ➡ *Prepare the inventory area*. Make sure that all stock records are up to date, cartons are neatly stacked so that all commodities are readily accessible, and any partial (open) cartons are visible and not concealed under full cartons.
- ➡ *Arrange for staff to be present* the day of the inventory if cartons will need to be moved and restacked.

To be accurate, two people should do separate physical counts and then compare them. If the two counts are not the same, a recount should be made of the items in question until the cause of the discrepancy is discovered.

Develop a clear procedure to record the count:

- ➡ Begin at one end of the aisle and work to the other end before starting the next aisle (if your storage area is that large).
- ➡ Go from the top of the shelves to the bottom. Do not skip any stacks or rows.
- ➡ Record all counts in single units (i.e., numbers of cycles of pills, numbers of condoms) rather than cartons or boxes because the quantity of their contents varies. Be sure to count the actual quantities in partial (open) cartons.
- ➡ If the same contraceptive method has different brands or formulations, count and record each brand or formulation separately.
- ➡ If any supplies are damaged or expired, record this information on a separate sheet specifically for damages and expiration. Remove these supplies from the stock.

The staff conducting the inventory should also look for any contraceptives that are due to expire shortly, and record the expiration date and the quantity of those contraceptives.

When the physical inventory is complete, compare the physical count for each item with the amount on the stock card. If there are any discrepancies, you will have to try to find the cause.

Discrepancies could be caused by:

- Miscalculation during the current inventory or a previous inventory.
- Items previously removed from inventory or received into inventory but not recorded on the stock cards.
- Missing a carton during the inventory.
- Damaged or expired contraceptives recorded on a separate sheet but not deducted from the balance on the stock card.
- Items not in their proper place.
- Theft.

Record the reasons for any discrepancies on the physical inventory form.

When the inventory and stock card amounts have been reconciled, do the following:

- ➡ Record the amounts on the stock cards and write "Physical Inventory" in the remarks column.
- ➡ If the inventory amount is different from the calculated amount, note in the remarks column that you are making a correction, for example, "Corrected by physical count" or "Found expired during inventory."

The inventory record form should be signed and dated by the person(s) who performed the inventory and the manager in charge of supplies. The form should be filed as a permanent record.

In larger warehouses that handle many products, this complete physical inventory process may be disruptive if the facility is very busy. It is always best to choose the least busy time of year or quarter to take a complete physical inventory.

An alternative method is ***cycle counting*** or ***continuous physical inventory***. With this method, one or a few products are counted at a time each day, week, or month, rather than closing down the warehouse and counting everything on the same day. The sampling procedure might be simple (for example, count one product during the first week of each month, so that everything is counted at least once per year), or more targeted (count all expensive or fast-moving items twice per year, and count the rest only once). Cycle counting strategies require more thought, but are less disruptive to routine warehouse operations.

PHYSICAL INVENTORY

Program: \_\_\_\_\_

Warehouse/Location: \_\_\_\_\_

Product	Lot No. or Bin No.	Expiration Date	Balance on Hand	Balance on Stock Cards	Discrepancy	Comments

Comments:

Signature: \_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

## Warehouse Space Requirements

If the demand for contraceptives is growing and your storage space is already near capacity, you may have to arrange for more storage space.

To calculate the amount of storage space that will be needed, do the following:

- ➡ Pick a date in the future (however far ahead you are planning).
- ➡ For each contraceptive, estimate what the Average Monthly Consumption (AMC) will be at that time if current trends continue. (See the next section on Forecasting for how to do this.)
- ➡ For each contraceptive, multiply the maximum stock level by its estimated AMC to see how many units of each contraceptive will need to be stored.
- ➡ Use the following formula to calculate the total storage space for each contraceptive product:

### Calculating Storage Space Requirements

Number of cycles/units to be stored	÷	Number of cycles/units per carton	=	Number of cartons
Number of cartons	×	Carton size (volume)	=	Storage space required

This will give you the volume of storage space required in cubic feet or meters. After calculating the space needed for each contraceptive product, add them together.

If your calculations are for a large supply of contraceptives, you must remember that cartons should be stacked no more than 2.5 meters high, so you need to divide by 2.5 to determine the minimum required floor space in square meters. Then, to allow room for aisles (if your storage facility is that large), handling, and ventilation, you should at least double the floor space. Finally, take the square root of this figure to calculate the length and width of the room you will need, or calculate another length-by-width combination. Use the following formulas, information, and worksheet for your calculations.

Storage space required	÷	2.5	=	Floor space
Floor space	×	2	=	Total space required
√ Total space required			=	Length and width of floor space

Carton sizes (volumes) for USAID-donated contraceptives		
Condoms (6,000 units)	0.11 meters <sup>3</sup>	3.7 feet <sup>3</sup>
Oral contraceptives (1,200 cycles)	0.04 meters <sup>3</sup>	1.3 feet <sup>3</sup>
IUDs (200 IUDs)	0.04 meters <sup>3</sup>	1.3 feet <sup>3</sup>
Injectable (Depo-Provera®) (400 vials)	0.04 meters <sup>3</sup>	1.3 feet <sup>3</sup>
Vaginal foaming tablets (4800 tablets)	0.05 meters <sup>3</sup>	1.6 feet <sup>3</sup>

Worksheet for Calculating Storage Space		
	<input type="text"/>	Quantity of units
÷	<input type="text"/>	÷ How many units per carton
×	<input type="text"/>	× Volume of cartons (in cubic meters)
+	<input type="text"/>	+ Add together volume of all contraceptive products
÷	<input type="text" value="2.5"/>	÷ Height limit of stacks (2.5 meters)
=	<input type="text"/>	= Square meters of floor space to be taken up by boxes
	× 2	× 2 for handling space, room for aisles
=	<input type="text"/>	= Total square meters
	√	Take the square root
=	<input type="text" value="×"/>	= Length × Width of floor space